ABSTRACT

BACKGROUND

Rheumatoid arthritis(RA) is a chronic inflammatory disorder, involving joints and extra articular manifestations. 50% mortality in rheumatoid arthritis is due to cardiovascular disease. Cardiovascular events occur approximately a decade earlier in RA like that in diabetes mellitus(DM). Moreover, like DM, there is an independent association of RA with preclinical and overt CV disease and most of the time it is silent with unfavourable outcome leading to premature death. In a study, if the clinical disease activity index score falls by 10, the risk of developing cardiovascular disease decreases by 26% has been formulated. So it is necessary to do screening for cardiovascular disease in all Rheumatoid arthritis patients. Also, the influence of disease activity on development of cardiovascular disease should also be studied.

AIM OF THE STUDY

To correlate and compare the association between disease severity and various clinical and cardiovascular manifestations in rheumatoid arthritis patients.

METHODS

This prospective cross sectional study is carried out in known Rheumatoid Arthritis patients fulfilling ACR criteria 2010 attending General Medicine & Rheumatology outpatient clinic of Tirunelveli Medical College Hospital between April 2017 and April 2018. They have been subjected to detail clinical and laboratory investigations and their cardiovascular manifestations are compared with their clinical profile and disease activity score.

RESULTS

We found that patients among our study group fell in age group of 21- 74 yrs with mean age of 47.76 years. Males among study group occupy 28% & females 72 % respectively. The Mean duration of rheumatoid arthritis among study population is 8.63 +_ 5.85 yrs. The disease severity among patients was assessed with clinical disease severity score and Mean CDAI score among them are 25.16 +_ 10.4. The disease severity was high among our study group with 60 % of cases occupying High CDAI score with no patients under remission. Mean Carotid Intima media thickness (CIMT) is increased in Rheumatoid Arthritis patients when matched with age related controls which signifies presence of

premature atherosclerosis. In our case series, Mean CIMT was found to be increased in 68 % of patients. Asymptomatic Carotid Plaque was present in 8% of patients. Presence of carotid plaque suggests that the patients are in stage of preclinical atherosclerosis and emphasis the need for more aggressive risk reduction strategies in these patients. And,CIMT correlates positively with severity of disease as evidenced by high CDAI score(p value 0.043) & duration of disease(p value 0.015).Among echocardiographic findings, LV systolic dysfunction (LVSD), variation in Ejection Fraction and Pericardial Effusion positively correlates with clinical disease severity index (CDAI) score. Left Ventricular Systolic Function, Left Ventricular Diastolic Dysfunction, and valvular abnormalities such as Mitral Regurgitation and Aortic sclerosis correlates positively with duration of rheumatoid arthritis. Coronary Calcification was found in 4 % patients in our study, was a indirect marker of subclinical atherosclerosis and serves as a marker of cardiovascular events.

CONCLUSION

Cardiovascular abnormalities such as LV diastolic and systolic dysfunction, premature atherosclerosis occurs commonly in Rheumatoid arthritis patients and positively correlates with CDAI score, disease duration and treatment duration.

All Rheumatoid arthritis patients should be screened for CVS abnormalities through Echocardiography and CIMT periodically.

DMARDs and Biological agents have been shown to have cardio protective effects in many studies. So, Early identification and effective control of disease activity by DMARDS/Biological agents can prevent or halt the progression of cardiovascular manifestations in Rheumatoid arthritis patients.